

REMARKS

Applicant concurrently files herewith an Excess Claims Fee Payment Letter, and corresponding excess claims fee, for four (4) excess independent claims.

Claims 1-9, 12-16 and 18-21 are all the claims presently pending in the application. Claim 1 has been amended to more particularly define the invention. Claims 3, 4, 15 and 16 have been rewritten in independent form in accordance with the Examiner's indication of the allowability of claims 3, 4, 15 and 16. The subject matter of claims 5 and 17 has been incorporated into independent claim 1, thus claims 5 and 17 have been canceled without prejudice or disclaimer.

Applicant specifically states that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Applicant gratefully acknowledges the Examiner's indication that claims 8, 9 and 21 are allowed, and that claims 3, 4, 15 and 16 would be allowable if rewritten in independent form. However, Applicant respectfully submits that all of the pending claims are allowable.

Claims, 6, 9, 12 and 18 stand rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. Claims 1, 2, 5, 7, 12-14 and 17-20 stand rejected under 35 U.S.C. §103(a) as being obvious over Madsen et al. (U.S. Patent No. 6,445,477) (hereinafter "Madsen") in view of MacDonald et al. (United States Patent No. 6,011,623) (hereinafter "MacDonald"). Claim 20 stands rejected 35 U.S.C. §103(a) as being obvious over Madsen in view of MacDonald and further in view of Tachikawa et al. (U.S. Patent No. 5,414,548) (hereinafter "Tachikawa").

These rejections are respectfully traversed in the following discussion.

I. THE CLAIMED INVENTION

The claimed invention of exemplary claim 1 provides an output monitor/control device including a wavelength control means for detecting change in wavelength based on a calculation result obtained by the calculation means and adjusting the wavelength to a preset value (e.g., see Application at page 9, line 27 through page 10, line 3). The output monitor/control of the claimed invention can be applied itself, with high accuracy, to a wide range of wavelengths, allowing for a simplified device structure (see Application at page 8, lines 24-27).

II. THE ENABLEMENT REQUIREMENT REJECTION

The Examiner has rejected claims 6, 9, 12 and 18 under 35 U.S.C. §112, first paragraph, as failing to comply with the enablement requirement. Specifically, the Examiner alleges that there is no structure of circuit diagram of the level calculation means, the level adjusting means and the level control means. The Examiner, however, is clearly incorrect.

That is, the Application discloses that the calculation circuit (108) and the wavelength control circuit (111) are capable of “correcting output intensity variation of laser light 103” (e.g., see Application at page 24, lines 24-26). Indeed, the Application discloses that the sum of current values of the first and second photodiodes varies and that this variation is checked. That is, variation in the output level may be detected and corrected by the calculation circuit (108) and the wavelength control circuit (111). Applicant respectfully submits that the calculation circuit (108) and the wavelength control circuit (111) are clearly depicted, for example, in Figure 6 of the original Application.

Thus, the Examiner’s rejection of claims 6, 9 and 18 is erroneous.

Furthermore, regarding the Examiner’s rejection of claim 12, Applicant respectfully submits that the Examiner is incorrect.

That is, Figure 11 merely depicts an additional embodiment of an output monitor/control device according to an aspect of the present invention. Figure 11 clearly depicts each and every feature of the claimed invention of claim 12.

The Examiner alleges that the specification does not include an enabling disclosure because Figure 11 does not provide structure for coupling the device of Figure 11 to the structure of Figure 1. However, neither Figure 11, nor the claimed invention of claim 12 (nor claim 1 from which claim 12 depends) attempt to connect the device of Figure 11 to the structure of Figure 1. Indeed, Figure 1 merely depicts a conventional arrayed waveguide grating.

Therefore, the Examiner is respectfully requested to reconsider and withdraw this rejection.

III. THE PRIOR ART REFERENCES

A. The Rejection of Claims 1, 2, 5, 7, 12-14 and 17-20

The Examiner alleges that Madsen would have been combined with MacDonald to teach the claimed invention of claims 1, 2, 5, 7, 12-14 and 17-20. Applicant respectfully submits, however, these references would not have been combined as alleged by the Examiner and that, even if combined, the alleged combination would not teach or suggest each and every feature of the claimed invention.

That is, these references are directed to different problems and solutions. Specifically, Madsen is directed to providing stable wavelength light for optical communication systems (see Madsen at column 1, lines 7-8), whereas MacDonald is directed to detecting and monitoring faults in optical fibers in the presence of traffic (see MacDonald at column 2, lines 44-46). Indeed, while MacDonald teaches the use of a Mach-Zehnder circuit, nowhere does MacDonald teach or suggest using a Mach-Zehnder circuit in an output

monitor/control device. Therefore, these references are completely unrelated (e.g., non-analogous art), and a person of ordinary skill in the art, attempting to improve Madsen, would have no reasonable motivation to consult the disparate reference MacDonald, absent impermissible hindsight.

Moreover, the Examiner's motivation to modify Madsen ("to reduce crosstalk between signals") is not a problem in Madsen that would require a solution. Thus, as pointed out in MPEP 2143.01, the Examiner's motivation is "improper". That is, "the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination" (emphasis in MPEP itself).

Moreover, neither Madsen nor MacDonald, nor any combination thereof, teaches or suggests "*a wavelength control means for detecting change in wavelength based on a calculation result obtained by said calculation means and adjusting said wavelength to a preset value*", as recited in claim 1.

The Examiner alleges that Madsen teaches a wavelength control means. The Examiner attempts to rely on column 2, line 62 through column 3, line 20 of Madsen to support his allegation. The Examiner, however, is clearly incorrect.

That is, nowhere in this passage (nor anywhere else for that matter) does Madsen teach or suggest a wavelength control means for detecting change in wavelength based on a calculation result obtained by the calculation means and adjusting the wavelength to a preset value. Indeed, Madsen merely teaches tuning a wavelength.

That is, Madsen merely teaches that the output of amplifiers (21A, 21B) are sent to a microprocessor that controls the lasers (10A-10D) (see Madsen at column 2, lines 6-11). Nowhere, however, does Madsen teach or suggest a wavelength control means for detecting change in wavelength based on a calculation result obtained by the calculation means.

Furthermore, nowhere does Madsen teach or suggest adjusting the wavelength to a preset value. Indeed, the Examiner concedes that Madsen does not teach or suggest this feature (see Office Action dated January 3, 2006, at page 7). The Examiner merely alleges that it would have been obvious to adjust the wavelength to a preset value. However, the Examiner does not provide any support for this allegation.

Furthermore, Applicant respectfully submits that MacDonald fails to make-up the deficiencies of Madsen. Indeed, the Examiner does not even allege that MacDonald teaches or suggests a wavelength control means for detecting change in wavelength based on a calculation result obtained by the calculation means and adjusting the wavelength to a preset value. Indeed, the Examiner merely relies upon MacDonald as teaching a Mach-Zehnder circuit that provides a phase difference of 180 degrees.

Thus, MacDonald fails to make-up the deficiencies of Madsen.

Moreover, neither Madsen nor MacDonald, nor any combination thereof, teaches or suggests “*a plurality of Mach-Zehnder circuits each of which receives a demultiplexed optical signal, branches the demultiplexed optical signal into two light beams having a phase difference of 180°, and transmits each of these light beams, exhibiting a periodic optical transmittance-optical frequency characteristic having a period of a frequency interval that corresponds to a predetermined free spectral range*”, as recited in exemplary dependent claim 12.

Indeed, the Examiner does not even allege that Madsen or MacDonald, nor any combination thereof, teaches or suggests this feature.

Furthermore, neither Madsen nor MacDonald, nor any combination thereof, teaches or suggests “*wherein said Mach-Zehnder circuit comprises a single-side Mach-Zehnder circuit*”, as recited in exemplary dependent claim 14.

The Examiner alleges that Madsen teaches this feature. The Examiner attempts to rely on Figure 1 of Madsen to support his allegation. The Examiner, however, is clearly incorrect.

That is, the Application clearly indicates that a single-sided Mach-Zehnder circuit “allows the input terminal and the output terminal to be arranged on the same side” of the circuit (see Application at page 20, lines 6-14). This feature is clearly not provided by Madsen.

Indeed, Figure 1 of Madsen clearly depicts the input ports (I1-I4) on an opposite side of the interferometer (11) as the output ports (O1-O2). Therefore, the alleged combination of references clearly does not teach or suggest the claimed invention of exemplary dependent claim 12.

Therefore, Applicant respectfully submits that these references would not have been combined as alleged by the Examiner and that, even if combined, the alleged combination would not teach or suggest each and every feature of the claimed invention. Therefore, the Examiner is respectfully requested to reconsider and withdraw this rejection.

B. The Rejection of Claim 20

The Examiner alleges that Tachikawa would have been combined with Madsen and MacDonald to teach the claimed invention of claim 20. Applicant respectfully submits, however, that, even if combined, the alleged combination would not teach or suggest each and every feature of the claimed invention.

That is, neither Madsen nor MacDonald nor Tachikawa, nor any combination thereof, teaches or suggests “*a wavelength control means for detecting change in wavelength based on a calculation result obtained by said calculation means and adjusting said wavelength to a preset value*”, as recited in claim 1.

Indeed, as indicated in section A, above, the alleged combination of Madsen and MacDonald fails to teach or suggest this feature. Furthermore, Applicant respectfully submits that Tachikawa fails to make up the deficiencies of Madsen and MacDonald.

That is, nowhere does Tachikawa teach or suggest a wavelength control means for detecting change in wavelength based on a calculation result obtained by the calculation means and adjusting the wavelength to a preset value. Indeed, the Examiner does not even allege that Tachikawa teaches or suggests this feature.

Thus, Tachikawa fails to make-up the deficiencies of Madsen and MacDonald.

Therefore, Applicant respectfully submits that, even if combined, the alleged combination would not teach or suggest each and every feature of the claimed invention. Therefore, the Examiner is respectfully requested to reconsider and withdraw this rejection.

IV. FORMAL MATTERS AND CONCLUSION

Regarding the Examiners' objections to the drawings, Applicant respectfully submits that it is not necessary to amend the drawings. That is, Applicant respectfully submits that each and every feature of the claimed invention is already depicted in the drawings.

Specifically, the Application discloses that the calculation circuit (108) and the wavelength control circuit (111) are capable of "correcting output intensity variation of laser light 103" (e.g., see Application at page 24, lines 24-26). Indeed, the Application discloses that the sum of current values of the first and second photodiodes varies and that this variation is checked. That is, variation in the output level may be detected and corrected by the calculation circuit (108) and the wavelength control circuit (111). Applicant respectfully submits that the calculation circuit (108) and the wavelength control circuit (111) are clearly depicted, for example, in Figure 6 of the original Application.

Therefore, the Examiner is respectfully requested to reconsider and withdraw this objection.

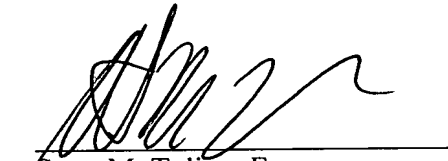
In view of the foregoing, Applicant submits that claims 1-9, 12-16 and 18-21, all of the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,

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